

Antithrombin (AT) Active Protein | AT active protein

Active Antithrombin (AT)

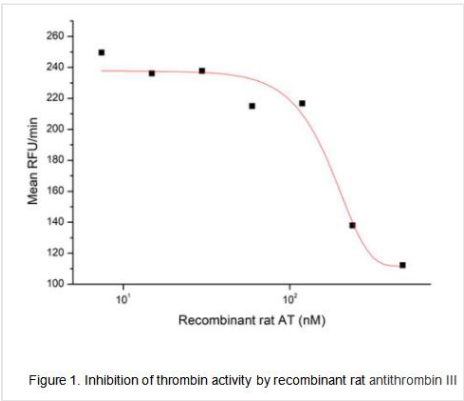
CATALOG # AAA161887	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Antithrombin (AT); Active Antithrombin (AT); Antithrombin; AT3; ATIII; SERPINC1; Anti-Thrombin Antibodies; Serpin Peptidase Inhibitor Clade C Member 1; Coding Sequence Signal Peptide Antithrombin Part 14; AT active protein

PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	Greater than 90% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	His33~Asn4 65
Applicable Applications for AT active protein	Activity Assay, Cell Culture
Species	Rat
Expression System	Prokaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	6
Research Area	Enzyme & Kinase, Metabolic pathway, Hematology
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months

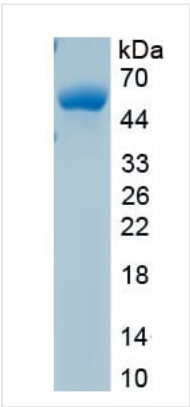


Bioactivity

Antithrombin III, also known as Serpin C1, is a member of the Serpin superfamily of the serine protease inhibitors. It is the principal plasma Serpin of blood clotting proteases and inhibits thrombin as well as several factors such as Xa. Similar to Serpins A5 and D1, its thrombin inhibitory activity is enhanced by heparin. Hereditary and acquired Serpin C1 deficiency is the cause of an increased thrombotic tendency in many cases. For example, acquired Serpin C1 deficiency is a common condition in sepsis, after major trauma or surgery. The activity of recombinant rat antithrombin III was measured by its ability to inhibit thrombin cleavage of a fluorogenic peptide substrate Boc-VPR-AMC in the assay buffer 50 mM Tris, 10 mM CaCl₂, 150 mM NaCl, 0.05% (w/v) Brij-35, pH 7.5. Thrombin was diluted to 0.5 U with heparin at 50 ug/ml in the assay buffer and 10 ul different concentrations of recombinant rat antithrombin III (MW: 52.6 KD) was incubated with 10 ul diluted thrombin at 37 degree C for 30 minutes. Loading 50 uL of the incubated mixtures which were diluted five-fold in assay buffer into empty wells of a plate, and start the reaction by adding 50 uL of 200 uM substrate. Include a substrate blank containing 50 uL of assay buffer and 50 uL of 200 uM substrate. Then read at excitation and emission wavelengths of 380 nm and 460 nm, respectively, in kinetic mode for 5 minutes. The result was shown in Figure 1 and it was obvious that recombinant rat antithrombin III significantly decreased thrombin activity. The inhibition IC₅₀ was

SDS-PAGE

Figure. SDS-PAGE



ADDITIONAL INFORMATION

Product Categories/Family for AT active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	58865630
NCBI GeneID	304917
NCBI Accession #	NP_001012027.1
NCBI GenBank Nucleotide #	NM_001012027.1
UniProt Accession #	Q5M7T5
Molecular Weight	58,200
NCBI Official Full Name	antithrombin-III
NCBI Official Synonym Full Names	serpin peptidase inhibitor, clade C (antithrombin), member 1
NCBI Official Symbol	Serpinc1
NCBI Protein Information	antithrombin-III; antithrombin III; serine (or cysteine) peptidase inhibitor, clade C (antithrombin), member 1; serine (or cysteine) proteinase inhibitor, clade C (antithrombin), member 1
UniProt Protein Name	Protein Serpinc1
UniProt Gene Name	Serpinc1
UniProt Entry Name	Q5M7T5_RAT

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-active-protein/antithrombin-at/161887>